METHOD AND SYSTEM FOR GENERATING REALISTIC COLLISIONS IN GRAPHICAL SIMULATIONS

ABSTRACT

A method of computer operation and a software system for operating a computer to generate realistic collisions between animated bodies. The system operates the computer to iteratively calculate of body positions from previous positions using a simulated contact force between colliding bodies which has a nonlinear relationship with respect to the closest-points vector defined between the bodies such that the force increases sufficiently rapidly as the closest-points vector goes to zero to overcome the motions causing the collision between the bodies. The present invention also uses a similar relationship between a limiting torque for body part joints and a maximum allowed rotation for a joint for realistic motions of articulated body parts connected by joints.